

storage **340** may include, but is not limited to, magnetic storage, optical disks, and/or tape storage. The disk drives and their associated computer-readable media may provide non-volatile storage of computer-readable instructions, data structures, program modules, and other data for the computing devices.

The memory **332** and the additional storage **340**, both removable and non-removable, are examples of computer-readable storage media. For example, computer-readable storage media may include volatile or non-volatile, removable, or non-removable media implemented in any suitable method or technology for storage of information such as computer-readable instructions, data structures, program modules, or other data. As used herein, modules may refer to programming modules executed by computing systems (e.g., processors) that are part of the management module **302**. The modules of the management module **302** may include one or more components. The management module **302** may also include input/output (I/O) device(s) and/or ports **342**, such as for enabling connection with a keyboard, a mouse, a pen, a voice input device, a touch input device, a display, speakers, a printer, or other I/O device.

In some examples, the management module **302** may include a user interface **344**. The user interface **344** may be utilized by an operator, or other authorized user to access portions of the management module **302**. In some examples, the user interface **344** may include a graphical user interface, web-based applications, programmatic interfaces such as application programming interfaces (APIs), or other user interface configurations. The management module **302** may also include data store **346**. The data store **346** may include one or more databases, data structures, or the like for storing and/or retaining information associated with the management module **302**. The data store **346** may include databases, such as customer information database **348** and gestures database **350**. The customer information database **348** and the gestures database **350** may include similar information as the customer information database **328** and the gestures database **330** of the onboard computer **312**. The management module **302** may store a larger amount of information in the data store **346** than the onboard computer **312** is capable of storing in the data store **326**. Thus, in some examples, at least a portion of the information from the databases in the data store **346** is copied to the databases of the data store **326**, e.g., periodically, occasionally, in connection with an event, or otherwise. In this manner, the data store **326** may have up-to-date information, without having to maintain the databases. In some examples, this information may be transferred as part of a delivery plan prior to the UAV **304** beginning a delivery mission.

Turning next to the details of the UAV management module **318** stored in the memory **314** of the onboard computer **312**, in FIG. 4, example schematic device **400** is illustrated including UAV management module **402**. The UAV management module **402** is an example of the UAV management module **318** and the server management module **336**. The UAV management module **402** will be described from the reference point of an example UAV, but its function is not limited to controlling a UAV. The UAV management module **402** may be configured to manage one or more sub-modules, components, and/or services directed to embodiments disclosed herein. In some examples, the UAV management module **402** may include a communication component **404**, a navigation component **406**, a gesture determination component **408**, and a delivery component **410**. While these modules and components are illustrated in FIG. 4 and will be described as performing discrete tasks, it

is understood that FIG. 4 illustrates example configurations and other configurations performing other tasks and/or similar tasks as those described herein may be implemented according to the techniques described herein. Other modules (not shown) may perform the same tasks as the UAV management module **402** or other tasks and may be implemented in a similar fashion or according to other configurations. Generally, the communication component **404** may be configured to manage communications between UAVs and a control service, between UAVs and user devices, between multiple UAVs, and/or any other communications. The navigation component **406** may be configured to implement at least portions of the delivery plan relating to navigation. For example, the navigation component **406** may calculate, adjust, receive, or determine coarse positioning or navigation instructions and fine positioning or navigation instructions. This may include, in some examples, determining trajectory adjustments to a flight path of a UAV. The gesture determination component **408**, for example, may be configured to receive gestures, access stored gestures, compare the received gestures with the accessed gestures, and determine one or more actions to perform based on the comparison. The delivery component **410** may be configured to implement at least portions of the delivery plan relating to item delivery. For example, the delivery component **410** may be configured to verify a human user's identity and, once verified, execute delivery of items.

Turning next to FIG. 5, this figure illustrates an example diagram **500** depicting techniques relating to human interaction with unmanned aerial vehicles as described herein, according to at least one example. Specifically, the diagram **500** illustrates the execution of an example delivery plan of UAV **502**. The UAV **502** is an example of the UAV **200**. An example flight path **510** of the UAV **502** is illustrated using the dot-dot-dashed line. The direction of the UAV **502** along the flight path **510** is illustrated by the plurality of arrows. The encircled numbers 1-5 illustrate locations along the flight path **510**, and are for discussion purposes. The flight path **510** may be an example of a flight path that the UAV **502** may take in delivering a package to human user **518** who resides at home **520**. Turning now to location 1, the UAV **502** is shown resting on vehicle **504**. In some examples, the vehicle **504** may be used as a home base for the UAV **502**. In some examples, the vehicle **504** may receive a delivery plan while resting on the vehicle **504**, while in flight, or at some other time. An example delivery plan may include coarse positioning, fine positioning, and delivery decision making. The coarse positioning may include GPS coordinates, directions to GPS coordinates, and/or an address of the home **520**. The GPS coordinates may correspond to an anticipated delivery location, such as delivery location **506**. However, because the accuracy of GPS coordinates and GPS systems can be imprecise, in some examples, coarse positioning (i.e., navigation at a coarse level of accuracy) may be used until the UAV **502** is within a specified range of the delivery location **506** that may approximately correlate to a range of the GPS system's accuracy. For example, circle **508** may illustrate an example accuracy range for a GPS system based on the delivery location **506**. In some examples, once the UAV **502** crosses within the circle **508** it may switch to fine positioning (i.e., navigation via other positioning systems having a finer level of accuracy than the coarse positioning).

Returning to the flight path **510**, the UAV **502** may leave the vehicle **504** and come upon human group **512** at location 2. In some examples, the UAV **502** may, as a safety mechanism or otherwise, be configured to watch for human